OCTOBER 29, 1951 NEWS ISSUE

Electrical World

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Harry T. Pritchard, New President of Indiana Electric Association

The Big Utilities.....Page 16

New Goals for Mobilization II.....Page 30

NERVE CENTER—Under suggested CD system discussed at Syracuse conference, various agencies continue to use their radio communications as long as possible. In event base station is disabled, duplicate base transmitters and receivers at this Communication Center take over.

Electrical Industry to Play Big Role in Civil Defense

Civil Defense Conference stresses importance of communications — electric utilities play vital part

ON LOCATION—Vital role of two-way radio in vehicles like this Niagara Mohawk Power Corp. truck is captured by "And a Voice Shall Be Heard." This new civil defense motion picture is available on loan from G-E Electronics Div., Syracuse, N. Y.

"The communication system is one link of civil defense which, above all others, must not fail." This was the note that dominated the recent civil defense conference held at G.E.'s Electronics Park, Syracuse, N. Y.

With CD leaders from all over the country in attendance, the meeting outlined the need for an integrated radio communication system employing "dispatch in depth." The plan calls for making the most effective use of the equipments of police, fire, taxi, and other agencies, with electric utilities and electrical equipment manufacturers providing particularly valuable technical assistance.

Assistance in civil defense planning like that outlined at the Syracuse meeting is carried on in leading cities by specialists of General Electric's CD Communication Advisory Service. *General Electric Company, Schenectady 5, N. Y.*

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301-175

MOBILE TRANSMITTER—"Dispatch in depth" calls for mobile communication center in trailer, supporting the fixed center. It would normally be remotely located, closely guarded against sabotage.

FEATURED SPEAKER—Hanson W. Baldwin, military editor of the N. Y. TIMES, featured speaker at conference, discusses civil defense with Dr. W. R. G. Baker, vice-president of G.E.'s Electronics Division.

RADIATION LAMPSHADE—Described at conference by G-E atomic scientist Lawrence L. Ge-man, this "radiation lampshade" can quickly determine position of A-bomb explosion.

The Electrical Week

INDUSTRY MOBILIZATION—(Page 14)—Little hope held out for increases in first quarter material allotments for the electric power industry . . . Depa announces minor requirement allotments for 1952 . . . Covered aluminum conductor will be in good supply during first quarter . . . Mobilizer Wilson halts production of color TV sets . . . Industry M orders listed.

WASHINGTON—Electric power and the 82nd Congress: A roundup at the halfway mark (p 5) . . . Civil functions appropriation of $600 million permits Army Corps of Engineers to start three new projects (p 6) . . . Changes in capacity reported to FPC are listed on Page 13.

ELSEWHERE—Engineering Manpower Commission begins program to acquaint public and government with problems caused by engineer shortage (p 4) . . . Federal power policy challenged at NARUC convention (p 11) . . . Indiana Electric Association told economic factors will govern production of power by the use of atomic energy (p 12) . . . Bell Telephone Co of Pennsylvania offers PEA utilities single service charge instead of several (p 13) . . . How Air Force spending can affect the Nation's power supply (p 30).

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Latest from Washington—Take away hydroelectric development from USBR projects and the whole Reclamation structure would topple, Reclamation Commissioner Michael W. Straus says . . . AEC is testing an experimental breeder reactor which would offer the best prospects of using atomic energy to power central station generators . . . Five Pacific Northwest utilities finally stand to get a long-term commitment from Bonneville Power Administration for delivery of a sizeable block of firm power. By 1954 the commitment would total half a million kw . . . FPC Examiner William J. Costello recommends that Portland GE be licensed to build Pelton hydroelectric project on Deschutes River in Jefferson County, Ore. . . . Sen Moody, D-Mich., asks Pres Truman to appoint James H. Lee of Detroit to FPC as he is a vigorous "pro-public expert in utility affairs."

Central Hudson Gas & Electric will build a second 60,000-kw unit at Danskammer Point Steam Station; first unit will go on the line by Jan. 1. Pres Ernest R. Acker says, "We are forced to use aluminum in place of copper in certain phases of our distribution system."

Latest from Midwest—Electric companies must train tomorrow's executives in social as well as business responsibilities. Pres Elmer L. Lindseth, CEICo, says at AIEE fall meeting in Cleveland. This is necessary if they are to manage an industry which may increase sales six times to 2 trillion kwhr, capacity five times to 400 million kw in the next 30 years . . . Ohio Power plans to spend more than $119 million for construction from 1951 to 1953 . . . Major reason for decline in Commonwealth Edison earnings to $1.94 a common share for year ended Sept. 30 compared with $2.07 the year before was a nonrecurring deduction of 14¢ a share as a result of adoption of bimonthly billing in August, says Chairman Charles Y. Freeman.

Latest from West Coast—Kitsap County PUD, Bremerton, Wash., approves new agreement to let Guy C. Myers of New York act for it in concert with six other PUD's to acquire Puget Sound P&L properties . . . BPA is investigating Cle Elum, Wash., as site for steam plant and studying report of Washington Institute of Forest Products on use of hogged fuel.

Latest from Southeast—Multi-purpose federal dams have as their ultimate goal "the nationalization of the industry," Carolina P&L Pres L. V. Sutton charges. "Big down-stream, multi-purpose dams," he says, "do nothing for soil conservation and little for effective flood prevention" . . . West Virginia asks utilities to stop using chemical spray for weed and brush control under lines along state highways.

Miscellany—Michigan State College Placement Bureau says today's starting technical salaries are $300-$400 with average at $325 for B.S. or B.A.; $325-$425 with average at $350 for M.A. or M.S.; and $400-$500 with average at $450 for Ph.D. . . . Cooperating with the scrap drive, Jersey Central P&L collected more than one million pounds in the 12 months ended August, 1951—enough to put nine 60-ton tanks on the battlefield . . . Tampa Electric will pay 60¢ a share quarterly common dividend and 30¢ a share extra, both payable Nov. 15 (record Nov. 1), compared with 50¢ in previous quarters and an extra 40¢ in November, 1950.

Congratulations—Commonwealth Gas Conversions, Inc, Commonwealth Services subsidiary, elects William B. Tippy president . . . Charles A. Dougherty, division engineer of Pennsylvania Electric Co, Altoona, becomes chief engineer of Jersey Central Power & Light, Asbury Park, on Nov. 1 . . . Cincinnati Gas & Electric elects H. D. Heiby assistant treasurer.

Engineers: Too Few, Becoming Fewer

Engineering Manpower Commission Begins Program to Convince Public and Government That More Must Be Retained in Civilian Jobs

Only by convincing the public and the government of the vital need of engineers in civilian jobs will we be able to maintain production of military and civilian goods now and in the future.

With this in mind, the Engineering Manpower Commission of the Engineers Joint Council is sponsoring a campaign to give the public information on the engineering shortage. To this end the commission is enlisting the aid of more than 400 industrial executives, engineering educators, and high school principals who were delegates at a recent manpower convocation in Pittsburgh.

Will Transmit Information

These delegates, plus about 1,000 more whose names have been given to the commission, will transmit information on the engineering shortage to local news sources, schools and colleges, Parent-Teacher Associations, churches, and Chambers of Commerce. Through this group the commission hopes to impress federal and state legislative bodies to a point where they will enact hard and fast legislation to alleviate the shortage. A second purpose is to initiate local drives for increased engineering enrollments.

"Grass Roots" Program

Indoctrination of delegates and development of a program of information at the "grass roots" level were prime purposes of the Pittsburgh convocation. Delegates from 28 states and Canada received a detailed account of why the shortage exists, the effect this shortage will have on the country, and what should be done to relieve it.

Basis of the manpower shortage, as outlined by M. H. Trytten, National Research Council, is the decreasing number of youths who will turn 18 in the next three years. Table I lists the number of youths who will become 18 during the next ten years, as estimated by the U. S. Census Bureau. Contributing to the problem is the rapidly dwindling pool of men available for military duty who have not previously seen service and who are between 18½ and 26. It is estimated that less than a million men over the age of 18½ years are available for induction or enlistment.

THE DRAFT will require an estimated 1,375,000 men annually under present regulations. But physically qualified 18½ year olds, the main source of supply for the draft, will number only about 864,000 annually for the next ten years

With the rapid turnover which seems certain for the armed services for the next 21 months, Trytten stated, manpower available for military duty above the age of 18½ years will disappear in less than two years. From then on men passing the age of 18½ years will be the sole supply of manpower from which to maintain an armed force of 3½ million men.

Under present draft regulations, a two-year tour of duty is required of each inductee. But it will be noted from Table II that 3½ years of service would be required of each man reaching 18½ years of age if we are to maintain a military establishment of 3½ million men based on an annual supply of 790,000 men. It is this calculation which indicates clearly that present manpower planning is completely inadequate and unrealistic and does not provide a basis for the maintenance of the armed strength which the Department of Defense has indicated as essential.

An examination of the engineering situation by Trytten disclosed a remarkable increase in the demands for personnel not only because of the needs of remobilization, but also because of the sharply increasing demands of the civilian economy.

Surveys conducted in the past summer indicated that about 70,000 to 80,000 engineering positions remain unfilled. Engineering graduates available to fill these demands numbered only about 35,000, of whom approximately half were already committed to military service.

Present enrollments in engineering schools indicate that graduating classes over the next several years will progressively reduce. Graduations in June, 1952, will number 25,000 to 27,000, assuming no Selective Service

withdrawals. The maximum possible graduating class in 1953 will decrease to approximately 22,000. In 1954 this number will reduce to about 17,000. It is probable that the graduating class of 1955 will also be about 17,000. Demand is expected to be between two and four times the rate of graduation.

Dean S. C. Hollister, Cornell University, pointed out that the pattern of utilization of engineers must be greatly modified if present necessary engineering work is to be accomplished with the limited number available and with no relief promised for the near future. He recommended that these steps be taken by industry:

1. Use engineers only in jobs in which engineers are required.

2. Do not hold young engineers in "intern" positions longer than necessary to qualify them.

3. Move engineers to positions of maximum responsibility compatible with ability and experience.

4. Release engineers from positions not requiring engineering training.

Table I

Number of Youths Reaching 18
(Thousands)

1951	1,050
1952	1,040
1953	1,090
1954	1,120
1955	1,115
1956	1,140
1957	1,180
1958	1,190
1959	1,270
1960	1,360
Average	1,155

Source: U. S. Census Bureau

Table II

Military Manpower Needs vs Length of Service

Average Period of Service (Years)	Annual Rotational Requirement (Thousands)
2	1,375
3	917
3½	790
4	687.5
5	550

Table is based on an armed force of 3½ million men, of whom 750,000 are "careerists." This leaves 2,750,000 to be maintained from an annual supply estimated at 790,000.

82nd Congress, at Halfway Mark, Drifting Toward New Power Policy

Electric Power and the 82nd Congress

In regard to electric power, the 82nd Congress to date has:

1. Removed the long-standing 3-1/3% excise on sale of electric energy by privately owned utilities.

2. Greatly restricted use of continuing funds by Southeastern and Southwestern Power Administrations, reiterating its injunction to give privately owned companies an opportunity to transmit federally produced power.

3. Cut back some power projects of Interior Department and Army Corps of Engineers, but provided funds for Palisades Project, and authorized power features of Cheatham Dam in Tennessee.

4. Sharply criticized cost estimates of the Army Engineers Civil Functions Projects (House Appropriations Subcommittee).

5. Delayed final sanction on St. Lawrence Seaway, Niagara Redevelopment, Bonneville thermal plants, and central Arizona projects.

6. Received proposal for authorization of Hells Canyon Project.

It is still too early to say whether the 82nd Congress is developing a clear power policy. But at the halfway mark, a few straws in the wind indicate such a trend.

Observers of Congressional action affecting the electric power industry consider the record thus far as a continuation of the shift away from uncritical approval of every suggestion made by federal and other power advocates.

Public power suffered a few setbacks during the first session of the 82nd, but there is some question as to whether Congress was charting a permanent course, or merely trying to tighten the purse strings on spending not directly tied to defense needs.

At one point—during votes on the Interior Department funds bill—the House seemed determined to make a significant change in federal power policy, but the Senate applied the brakes. In this instance, the House approved the Keating Amendment, which would have prohibited the Reclamation Bureau from building transmission lines in areas where privately owned utilities offered wheeling contracts. The Senate version of the amendment simply reiterated the view that privately owned utilities should be given a chance to bid on transmission of federal power.

For the first time in years, a number of roll call votes were taken in the House on power items.

Funds requested for various power agencies of the Interior Department were sliced about $52 million. This cut included the elimination of nine of the more controversial transmission lines of the Central Valley Project in California.

Sharp criticism of some of the methods of the Army Corps of Engineers by a House appropriations subcommittee failed to bring any drastic cuts in the corps' appropriations. The Senate refused to go along with Democratic Sen Paul H. Douglas of Illinois or Republican Sen Homer Ferguson of Michigan, who wanted to cut these funds.

The corps ended up with about $50 million less than had been requested by President Truman, but it appeared

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that lack of materials would curb its activities more than lack of funds.

In an action welcomed by the electrical industry, Congress removed the 3⅓% excise tax on the sale of electric energy by privately owned companies. This will eliminate much bookkeeping and at the same time lessen tax handicaps under which private companies must compete with public bodies in the power business. Congress also exempted rural electric cooperatives from reporting their patronage refunds.

Spending Powers Curbed

Restrictions were placed on the use of continuing funds by Southeastern and Southwestern Power Administrations, curbing spending powers of federal power officials.

Congress set the Southwestern fund at $50,000 and restricted it to emergency use. The Southwestern agency was restricted from using its fund in excess of specific amounts set each year by Congress—thus putting a limit on what could be spent. The amount for fiscal 1952 was set at $250,000.

The 82nd has not yet completed its record. The showdown will come next session if votes are taken on controversial projects such as the Niagara Redevelopment and the Bonneville steam plants. On both issues, business-managed companies have taken a strong stand, as have other nonfederal agencies. The vote on Niagara, particularly, would give a clear view of just how this Congress stands in the private-public power battle.

3 Bills Before Congress

In the case of Niagara Redevelopment, Congress has before it three bills. One would provide for development by privately owned utilities. A second would provide for development under supervision of a state authority. The third would provide for federal development. Thus, Congress has three well-defined alternatives.

Despite aggressive efforts, the Administration was not able to bring about a favorable vote on the St. Lawrence Waterway legislation. A controversial issue of the pending legislation is the power aspect of the project. Canada's threat to "go-it-alone" if the U. S. refused to act on the project failed to bring a decision by adjournment time.

$600 Million Civil Functions Fund Lets Corps Begin 3 New Projects

In a $600-million appropriation bill for Army civil functions approved Oct. 17, Congress voted construction funds to start three new Corps of Engineers projects that will develop important blocks of hydroelectric power. President Truman was expected to sign the bill within a few days.

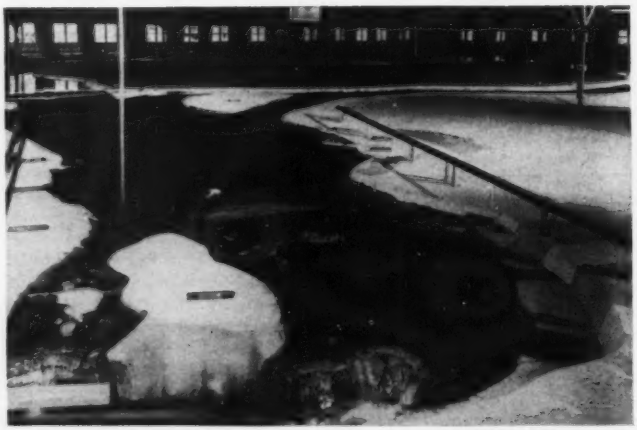
Only one new power-producing project was denied by Congress—Ice Harbor Lock and Dam on the Snake River in Washington. The three projects that got money to start construction are: The Dalles, $4 million, on the Columbia in Oregon and Washington; Old Hickory, $2 million, on the Cumberland in Tennessee; and Gavins Point, $2 million, on the Missouri in Nebraska and South Dakota.

President Truman in his budget message last January had asked for a start on all four of these Army Engineer projects—rated important to national defense. He also recommended development of the St. Lawrence.

Critical reports leveled at the Army Engineers by House Committees this year had no visible effect on the civil works appropriation for fiscal 1952. The conference compromise approved by Congress last week gives the corps $597,216,713 for the current year. That is nearly $82 million more than the House voted in June, and it is only $41 million less than the Senate passed in August.

For construction of river and harbor projects, the bill appropriated nearly $193 million. The largest project item in this group, just under $43 million, goes to McNary Lock and Dam on the Columbia.

Flood control projects get more than $316 million in the bill. Largest allocations in this category go to two Missouri River projects: Fort Randall, $34,699,000 (of which $2 million is authorized for transfer to start Gavins Point) and Garrison, $37,083,700.



Hydro Project Looking for a Builder

Congress will have to decide who builds it, but the Army Corps of Engineers, working with the model in this picture, will help decide how the new electric power project is to be built on the Niagara River in the vicinity of Niagara Falls (EW, Oct. 8, p 104).

Main purpose of the model, at the Engineers' Waterways Experiment Station, Vicksburg, Miss., is to permit designers to determine what remedial works must be built to preserve the falls at the same time huge amounts of water are being taken for hydroelectric energy.

This bank of 110,000-volt Moloney Load Ratio Control Autotransformers, and spare, are serving today on a large southern utility. Some of the features of this installation as stated by Moloney Electric Company are: "7,500 kva self-cooled, or 10,000 kva forced-air-cooled; rated at 110,000 to 69,000 volts, Y, with a Delta tertiary winding. Automatically controlled voltage regulation of plus and minus 10 per cent at the 69-kv terminals is provided in thirty-two ⅝ per cent steps. In-step control is included for maintaining all units on like tap positions. Automatic and manual controls for operation of the bank from one point are contained in a convenient control box. In addition to these refinements, the transformers are equipped with . . ."

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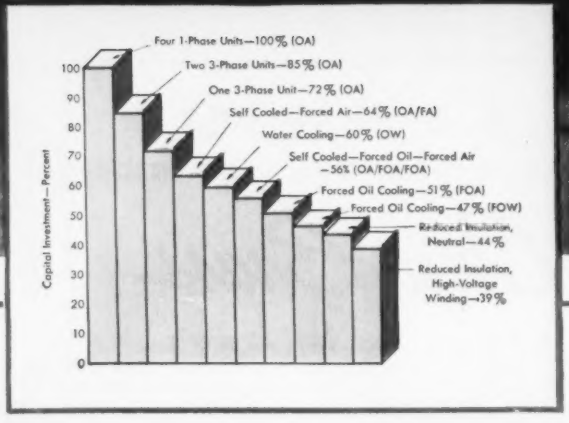

Summation of possible reductions in investment for generating station transformer banks.

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Savings in power transformer costs amounting to 50% and more—made possible by use of three-phase units supplemented by water and forced-oil cooling—can be increased an additional 5% to 15% by reducing insulation.

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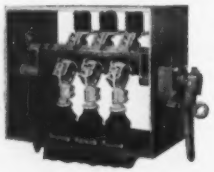
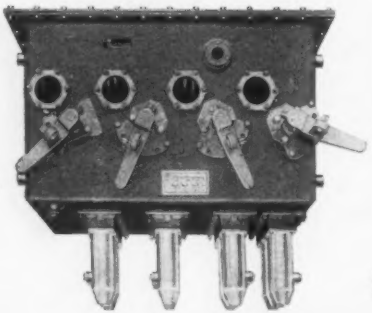
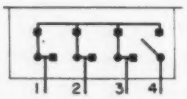
G & W Type "RA" switches provide an efficient and economical method of interrupting currents up to 400 amperes. Substantial savings in equipment cost are realized when Type "RA" load break oil switches are used with power fuses in installations where expensive circuit breakers would otherwise be required.

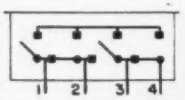
Almost any switching arrangement can be obtained with Type "RA" switches. Basic unit parts are merely arranged to meet individual requirements.

Two of the most common arrangements are shown below. Write or ask your nearest G & W representative for information on the switches needed in your distribution plans.



This cutaway view of a single-throw switch shows the construction of rocker arm links with pivot points anchored solidly in welded steel tank walls. There is no breaking force applied to porcelain bushings when switch is operated.



Main feeder looped through with load connected through bus.

Main feeder looped through. Load connected to alternate feeder.

This four-way switch uses four sets of links and internal bus. Main feeder (1, 2) may be looped through with load (3) connected or isolated. Load may be connected to alternate feeder (4) without affecting main feeders. Large viewing windows permit visual observation of switch position without opening tank.

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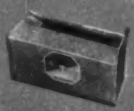

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NARUC OFFICERS for coming year are: A. L. Roberts, left, asst general solicitor and secretary; C. L. Doherty, South Dakota, second vp; J. C. Darby, South Carolina, president; E. S. Loughlin, Connecticut, first vp; and J. P. Randolph, general solicitor

Federal Power Policy Is Challenged at 63rd Annual NARUC Convention

Federal power policy was challenged at the 63rd annual convention of the National Association of Railroad and Utilities Commissioners held at Charleston Oct. 16-19.

Saying his words were not to be interpreted as either for or against public power ownership in individual instances, Pres George H. Flagg of Oregon declared, "No movement of this type can be justified when the only argument in its favor must be based on tax advantage.

"I have no more sympathy for the new 'crop of racketeers' who would justify public ownership on this basis and use the revenue bond as an instrument for looting the public than I have for the burglars who manipulated themselves into millions some years back in juggling utilities stock."

On responsibilities facing state regulatory bodies, he warned, "Don't think that the public enemy in this struggle is the crackpot who writes letters berating you for doing your duty and following the law when you make necessary increases in rates for essential services. Such individuals do not have the millions necessary to finance the attack on free enterprise.

"The real danger comes from sources of great wealth, interested only in a quick buck, who would sacrifice free enterprise or any other pillar of our American way of life if there seemed to be an opportunity to grab a fortune at the public expense."

On the question of cooperation received from utilities he said, "Are utility executives giving you the help you deserve, by presenting honest and straightforward figures, especially in their forecasts and estimates? Or are these vital figures best described as pure propaganda?

"I am urging you, and it is vital for your own protection as well as for the proper meeting of your obligation to the public, to get exceedingly rough with any representative of your regulated utilities who is not cooperating with you, honestly and fairly, in meeting your joint obligation to the public."

In a resolution (right) adopted overwhelmingly by voice vote, delegates called on Congress to repeal "power preference clauses" in federal statutes. Author was George R. Jones of Idaho Public Service Commission. (See In the Industry—Page 21.) Some opposition from California, Arkansas and North Carolina developed, but not sufficient to touch off a full scale battle.

J. C. Darby, chairman of the South Carolina Public Service Commission, was elected president, succeeding George H. Flagg; Eugene S. Loughlin, Connecticut, first vice president; C. L. Doherty, South Dakota, second vice president. Re-elected were: John P. Randolph, general solicitor; Austin L. Roberts, Jr., assistant general solicitor and secretary.

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Preference Clause Hit by NARUC Resolution

Delegates to the NARUC convention passed the following resolution favoring elimination of "power preference clauses" in federal laws:

"WHEREAS provisions contained in various federal statutes under which Government-owned electric generation plants have been constructed, give preference to publicly-owned electric distribution systems for the sale and purchase of electric power produced at such government plants, which preferences unjustly discriminate against numerous citizens and electric users who are served by privately-owned electric utilities companies under regulation by state commissions or the Federal Power Commission, and

"WHEREAS such preferences have been and are being used to foster and expand public power projects to the detriment of the customers of regulated utilities, and

"WHEREAS the benefits of power produced at federal projects should be made available to all users of electricity on equal terms,

"RESOLVED, that the Congress of the United States is urged to adopt a federal power policy which will make the power generated at federal projects available to all citizens and electric users without discrimination and that the preference provisions contained in existing statutes relating to the disposition of electric power generated at federal projects be repealed; and

"BE IT FURTHER RESOLVED, that the Committee on Legislation and the legal representatives of the Association be and they are hereby authorized to appear before any committee of either house of Congress and to give testimony on behalf of the Association in support of any bill or bills that will accomplish the objectives of this resolution."

AFTER 20 YEARS in downtown Indianapolis, Public Service Co of Indiana has established a new headquarters at nearby Plainfield. The company held an official "opening" recently. Guests were shown through the four buildings above. Administration building is in foreground. Meter, transformer, and machine shops; power system controls; and garages are in rear

IEA Told Economic Factors Govern Electric Power from Atomic Energy

(*See Front Cover*)

One of these days, electric power from atomic energy will prove technically feasible, Alfonso Tommaro, Chicago operations manager of the Atomic Energy Commission, recently told the Indiana Electric Association. But the impact of such a development, he said, will depend on whether atomic production of power can compete economically with other methods.

Tommaro spoke at the association's convention at French Lick, at which Harry T. Pritchard was elected president.

Several months ago, he pointed out, AEC negotiated agreements with eight private companies under which they are now carrying out research to determine whether it will be practical and economical to build and operate power producing reactors with their own money.

Herbert C. Graebner, dean of the College of Business Administration, Butler University, told the convention that from each $5 of gross income paid to individuals in the United States, $1 comes from the federal government.

It is time to abolish some of the government's activities, he said. He urged elimination of the Reconstruction Finance Corporation; the turning back to the states of educational and welfare functions; and close scrutiny of other government activities, starting with the stockpiling program.

George M. Gadsby, president of Edison Electric Institute, said the electric utilities were undertaking the largest nine-year expansion program ever conceived by a single industry. By the end of the period 1946-1954, he said, the industry will have spent $16 billion to expand facilities. Money spent will have added 39 million kw to the nation's capacity.

Gadsby said electrical manufacturers have the capacity to build equipment necessary to this expansion if materials are made available to them. If this is done, he added, the private utilities will install it on the schedule planned.

Other speakers on the program included retiring Pres C. V. Sorenson; Chester H. Lang, vice president of General Electric Co; and C. A. Scarlott, manager of engineering publications, Westinghouse Electric Corp.

Pritchard, who is also president of Indianapolis Power & Light Co, is a past president of the Indiana Chamber of Commerce.

He became president and chairman of the board of IP&L in 1934, after serving as vice president of Utilities Power & Light Co, and president of Carlsbad Light & Power Co and River Falls Power Co.

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Wisconsin Utility Finds Market for Its Fly Ash

Wisconsin Electric Power Co has found a way to get cash for its unwanted fly ash. The utility recently began shipping cars of fly ash from its Lakeside Plant to south Illinois oil fields, where it is used in the making of cement.

The oil companies have found that adding fly ash to the cement mixture has resulted in improved cementing around the wells. The ash adds fluidity to the mixture.

Single-Charge Plan Offered Utilities by Pennsylvania Bell, PEA Men Told

Electric utilities in Pennsylvania will be able to lease a telephone circuit and have a single service charge instead of several for the different services—talking, pilot wiring, signalling, and supervising. The new tariff will become effective Nov. 16.

This announcement was made by R. M. Wachob, assistant vice president, Bell Telephone Co of Pennsylvania, at a joint session of the Communication and Relay Committees of the Pennsylvania Electric Association in Baltimore, Md., on Oct. 18 and 19.

Outlines Bell's Policy

In considering special problems relating to power companies, Wachob outlined Pennsylvania Bell's "policy of cooperation": (1) Supply exchange and toll service except where phone company has no lines and the power company wants service and will put in equipment, and (2) extend or piecemeal out the service on existing equipment by cooperating with the power company in the use of private equipment, but provide the complete service on new circuits.

Maintenance routines to ensure reliability of leased circuits were discussed by Williard T. Dye, Eastern Division plant manager of Pennsylvania Bell. He said circuit troubles reported by the utility two or more times in a month were investigated. He recommended formation of a small committee of power company and telephone company representatives to study experience and maintenance records and thus aid in providing dependable service on leased communication lines.

Makes Request for Data

Very little data has been published on the effect of sleet on carrier current, according to T. A. Cramer, carrier current application engineer, General Electric Co. He requested operating companies to search their files and release the data.

I. Perry, Public Service Electric & Gas Co, suggested two methods to get better performance during sleet storms: (1) Inspect wave traps twice annually, inspecting fully in May or June and checking again in December by closing ground switches and determining impedance of traps, and (2) properly adjust mutual coupling in receivers to obtain correct pass band.

Apparent microwave signal strength decreases during the daylight hours by at least 15 db. A 30-35 db margin is highly desirable for a design of 125 db to assure reliability for the service. These are some results noted on voice channels of a microwave test installation by Charles Wasserman, senior engineer, Consolidated Gas Electric Light & Power Co of Baltimore.

Percy Nicholls' Award Presented to Mumford

Albert R. Mumford, research engineer for Combustion Engineering-Superheater, Inc, has received the Percy Nicholls' Award for his contributions in the field of solid fuels. The award was made at the Annual Joint Fuels Conference sponsored by the Fuels Division of the American Society of Mechanical Engineers and the Coal Division of the American Institute of Mining and Metallurgical Engineers.

Mumford was cited for his research work on combustion of coal, heat transfer, and circulation in steam generators. The former ASME vice president joined the research department of Combustion Engineering in 1942. He previously worked as assistant director of research for Consolidated Edision Co of New York, as research and design engineer with New York Steam Corp, and assistant fuels engineer for the U. S. Bureau of Mines.

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Canadian Energy Output in August Tops '50 Level

The following statistics on energy production by Canadian central stations, supplied by the Dominion Bureau of Statistics, are in thousands of kilowatt hours:

Period	1951	1950
Eight Months' Output	38,028,538	33,253,788
Primary	35,205,680	30,769,687
Secondary	2,822,858	2,484,101
Primary Consumption	34,141,709	29,746,807
Net Exports to U. S.	1,618,669	1,320,878
August Output	4,595,761	4,198,697
Primary	4,446,990	3,982,445
Secondary	149,671	216,252
Primary Consumption	4,314,959	3,848,764
Net Exports to U. S.	159,584	149,546
July Output	4,629,009	4,200,615
Primary	4,345,312	3,845,527
Secondary	283,697	355,088
Primary Consumption	4,294,847	3,714,553
Net Exports to U. S.	237,706	158,786

Changes in Capacity Reported to Federal Power Commission

PLANT ADDITIONS DURING AUGUST

State	Utility	Plant	Fuel	Capacity (Kw)
N. Y.	Consolidated Edison Co of New York	Hudson-Gold	S	60,000
N. Y.	Niagara Mohawk Power Corp	Oswego	S	80,000
Ohio	Shelby Municipal Light Plant	Shelby	S	5,000
Mich.	Detroit Edison Co	Conners Creek 1	S	100,000
Minn.	Western Minnesota Power Cooperative	Benson	IC	2,610
Minn.	Mississippi Valley Public Service Co	Winona	S	12,500
Iowa	Iowa Electric Light & Power Co	Prairie Creek	S	20,000
Mo.	Jackson Municipal Water & Light Department	Jackson	IC	1,000
Mo.	St. Joseph Light & Power Co	Lake Road	S	20,000
Kan.	Caney Valley Electric Cooperative Association, Inc	Sedan	IC	1,240
Kan.	Beloit Light Department	New	IC	3,750
Del.	Delaware Power & Light Co	Edgemoor	S	120,000
W. Va.	Central Operating Co	Philip Sporn	S	125,000
S. C.	Duke Power Co	Lee	S	90,000
Fla.	Florida Power & Light Co	Palatka	S	30,000
Ala.	Alabama Power Co	Chickasaw	S	40,000
La.	Lafayette Water & Light Department	Lafayette	S	8 000
Tex.	Austin Water, Light & Power Department	Austin	S	20,000
Wash.	Quinault Light Co	Zeigler Creek	IC	314
Calif.	Pacific Gas & Electric Co	Contra Costa	S	207,000

PLANT RETIREMENTS DURING AUGUST

Pa.	Pitcairn Electric Light Plant	Pitcairn	IC	168
Mo.	Jackson Municipal Water & Light Department	Jackson	IC	285
Neb.	Crete Municipal Utilities	Crete	IC	715
Ky.	Louisville Gas & Electric Co	Canal	S	12,000
Tex.	Lower Colorado River Authority	Kerrville	IC	606
Tex.	Lower Colorado River Authority	Lano	H	500
Tex.	Lower Colorado River Authority	Martindale	H	140
Tex.	Lower Colorado River Authority	Alvard	H	125
Wyo.	Lower Valley Power & Light Co, Inc	Freedom	IC	200
Colo.	Public Service Co of Colorado	Brush	S	350

H—Hydro, IC—Internal—Combuston, S—Steam
United States Capacity as of September 1—Hydro, 18,512,796 kw; Internal Combustion, 1,947,744 kw; Steam, 53,174,925 kw; Total, 73,635,546 kw.

Little Hope Held Out for Increases in 1st Quarter Material Allotments

There is little hope that first-quarter 1952 material allotments for the electric power industry will be greatly changed from quotas announced earlier this month (EW, Oct. 22, p 95).

Officials at Defense Electric Power Administration were studying the figures to see what increases were most vitally needed. There is a chance it will urge additional allotments for specific hardship cases, especially where structural steel is involved. To some of these officials, it appeared that structural, rather than heavy equipment, might be the major delaying factor in the expansion program.

The Electrical Equipment Division of National Production Authority was seeking some opening to lodge an appeal, but appeared to be getting little encouragement. It had delayed for a few days announcing individual allotments to manufacturers in hopes of being able to get a larger share. But it began processing these allotments last week when hopes began to fade.

Cutbacks in allotments are expected to bring loud protests from transformer, switchgear, and motor manufacturers. Whether this will bring a supplemental allotment, as it did in the fourth quarter, cannot be determined at this time.

Engine and Turbine Division of NPA, which fared pretty well on the first quarter allotments, had little reason to complain. However, this division must claim material for heat exchangers in the first quarter, an item added to the division's products since fourth quarter allotments.

Allotments Announced on Minor Requirements

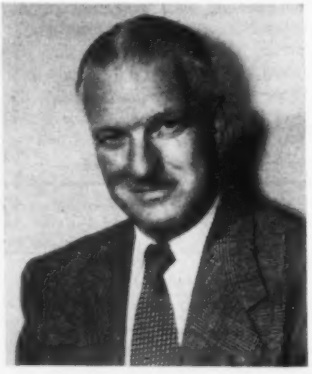
Minor requirement allotments for the first quarter of 1952 and advanced allotments for the other three quarters have been announced by Defense Electric Power Administration, and letters have been sent to utilities stating the quotas.

Such allotments, as in the past, are based on use of material either during a comparable quarter in 1950 or during the entire year. Utilities may affix the proper ratings on purchase orders for these materials, making sure that quota limits are observed.

Allotments for the first quarter constitute the entire amount of controlled material available for minor requirements during that period. Advance allotments are tentative, and may be increased when actual allotments are announced.

Advance allotments for the second and third quarters of next year are the same as announced earlier except the quota for aluminum has been raised.

In calculating base period use, Depa notes that recent reclassifications of materials and products under CMP must be taken into consideration. These changes were set forth in instructions accompanying Form DEPA 8 (Revision 1) sent to utilities Oct. 10.



EVERETT P. WELSH, chief of the Coordination Branch of NPA's Engine and Turbine Division, is on leave from Pennsylvania Power & Light Co

Allotments Remain Static on Aluminum Conductor

Covered aluminum conductor will be available to electric utilities in the first quarter of 1952 on the same basis as in the third and fourth quarters of this year.

Allotments of this material may be acquired in addition to regular minor requirement allotments by writing the Minor Requirements Branch of Defense Electric Power Administration.

Depa's full share of 4½ million lb of covered aluminum has been allotted for fourth quarter use. It is possible the agency will receive a slightly larger share for the first quarter, but final figures are not yet available.

Officials are encouraged by the use being made of covered aluminum. During the third quarter, utilities requested allotments for less of the material than was available, but use has increased considerably in the last few months.

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Wilson Halts Production of Color Television Sets

In a dramatic move Mobilization Chief Charles E. Wilson last week put up a stop light for color television set production and indicated he might do the same on other nonessential new products using vital materials.

Stoppage of mass production of Columbia Broadcasting System's color TV sets could have been achieved by the less spectacular means of having National Production Authority turn down requests for materials for color TV production. But Wilson is believed to have chosen the more dramatic way—a letter to CBS Pres Frank Station requesting stoppage—to impress the public that "There's a war on." In doing so, he enunciated a new policy of stopping production of any new products that are not essential and which consume vital materials and skilled technical man hours.

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Industry M Orders

Copies of the following M order and amendment may be secured from the National Production Authority, Washington 25, D. C., or any regional office of the Department of Commerce:

M-86 establishes an **inventory replenishment** period in the fourth quarter during which distributors with abnormally low inventories may, by using the X6 rating symbol, replace part of their inventories to meet anticipated authorized controlled materials orders.

Amendment to M-44 permits new orders for power and electric equipment to be scheduled on production boards, provided they will not displace or delay approved delivery dates of existing orders.

From Northern Canada to the Tropics

Kyle OCR's are OK

They give you dependable operation in any kind of weather

▼Ambient temperatures are no problem to Kyle® Oil Circuit Reclosers. They are as dependable at extremely low temperatures as at normal temperatures. Installation records show that thousands of Kyle reclosers are regularly operating at extreme temperatures all over the world.

Here's just one example: One of the large users of Kyle reclosers is a power company in Northern Canada. Here the long clear summer days get pretty hot. And on long winter nights the mercury may drop down to 50 below.

In winter, deep snowdrifts block roads for weeks at a time. A blown fuse could mean a long blackout. But with Kyle reclosers, there are a minimum of power interruptions. Performance is excellent the year around. Customers have less trouble, and Kyle reclosers don't seem to know whether it's hot or cold, judging by their unfailing, prompt, accurate operation.

Kyle reclosers lick weather problems. Eliminate service trips over ice and snowdrifts. Cut outages to a minimum. Save money on fuse link replacements. Assure accurate coordination. Ask the L-M Field Engineer for details on L-M—Kyle complete automatic protection. Or write for a copy of Bulletin CR1 to Line Material Co., Milwaukee 1, Wisconsin (a McGraw Electric Company Division).

Kyle oil-filled equipment is now supplied with ORTO®, L-M's oxidation resistant transformer oil, inhibited to lengthen oil life.

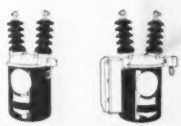
Kyle type H single-phase recloser, with all the Kyle safety features. Seven operating sequences.

Kyle type 3H — operates individually on each phase but locks out all three phases simultaneously.

Kyle type L Heavy Duty—only recloser with 4 operating curves; interrupts up to 6000 amperes.

Kyle type E recloser, with all the Kyle features. It is engineered especially for 23kv systems.

Kyle type GS sectionalizer makes protection completely automatic—coordinates with all reclosers.



Kyle oil switches for many applications. Manually operated type G, or remote control type GR (right) for capacitor and other remote control switching.

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LINE MATERIAL... Kyle Reclosers

The Big Utilities

Here are the nation's biggest investor-owned electric utilities. They are ranked under 13 classifications. Others could be made, but those omitted are not considered as having any great significance. It must be remembered that these rankings are not to be interpreted as attributing any superiority to these companies. Many others unlisted may be more efficiently operated, may give better service, or may be more profitable. Mainly because of the areas they serve or the density of the population in these areas, these are the big companies.

The list of companies according to number of customers served is based on the *McGraw Central Station Directory for 1951*. Other listings were compiled from *Statistics of Electric Utilities in the United States for 1950*, published by the Federal Power Commission.

Utilities Serving 300,000 Customers

(Based on figures in 1951 McGraw Central Station Directory)

Rank '50	Rank '49		
1.	1.	Consolidated Edison Co, New York, N. Y.	2,762,431
2.	2.	Pacific Gas & Electric Co, San Francisco, Calif.	1,333,717
3.	3.	Public Service Electric & Gas Co, Newark, N. J.	1,195,771
4.	4.	Commonwealth Edison Co, Chicago, Ill.	1,119,586
5.	6.	Southern California Edison Co, Los Angeles, Calif.	986,109
6.	5.	Detroit Edison Co, Detroit, Mich.	971,933
7.	7.	Philadelphia Electric Co, Philadelphia, Pa.	938,208
8.	8.	Niagara Mohawk Power Corp, Syracuse, N. Y.	857,176*
9.	10.	Consumers Power Co, Jackson, Mich.	720,810
10.	9.	Los Angeles Dept of Water & Power, Los Angeles, Calif.	660,521*
11.	11.	Duke Power Co, Charlotte, N. C.	618,000
12.	16.	Public Service Co of Northern Illinois, Chicago, Ill.	604,046
13.	13.	Virginia Electric & Power Co, Richmond, Va.	578,812
14.	14.	Northern States Power Co, Minneapolis, Minn.	547,103
15.	12.	Pennsylvania Power & Light Co, Allentown, Pa.	527,487
16.	15.	Boston Edison Co, Boston, Mass.	483,979
17.	17.	Union Electric Co of Missouri, St. Louis, Mo.	450,591
18.	21.	Georgia Power Co, Atlanta, Ga.	449,754
19.	NL	Ohio Edison Co, Akron, Ohio	444,164
20.	22.	Appalachian Electric Power Co, Roanoke, Va.	442,184
21.	18.	Cleveland Electric Illuminating Co, Cleveland, Ohio	430,159
22.	19.	Duquesne Light Co, Pittsburgh, Pa.	420,786
23.	20.	Consolidated Gas, Electric Light & Power Co of Baltimore, Md.	414,341
24.	NL	Wisconsin Electric Power Co, Milwaukee, Wis.	391,818
25.	23.	New York State Electric & Gas Corp, Ithaca, N. Y.	365,788
26.	24.	Ohio Power Co, Canton, Ohio	359,062
27.	NL	Long Island Lighting Co, Mineola, N. Y.	356,933
28.	28.	Alabama Power Co, Birmingham, Ala.	355,282
29.	26.	Florida Power & Light Co, Miami, Fla.	348,877
30.	25.	West Penn Power Co, Pittsburgh, Pa.	347,460
31.	27.	Pennsylvania Electric Co, Johnstown, Pa.	315,939
32.	NL	Public Service of Indiana, Indianapolis, Ind.	304,206

Note: Symbol (NL) in this and other tables indicates company was Not Listed in last year's tabulation.
* Failed to supply new figure for 1951.

Electric Plant Investment

Rank '50	Rank '49		
1.	1.	Pacific Gas & Electric Co.	$1,06
2.	2.	Consolidated Edison Co.	88
3.	3.	Commonwealth Edison Co.	62
4.	4.	Southern California Edison Co.	59
*5.	5.	Niagara Mohawk Power Corp.	57
6.	6.	Detroit Edison Co.	48
7.	7.	Philadelphia Electric Co.	44
8.	8.	Public Service E&G Co.	40
9.	9.	Consumers Power Co.	34
10.	10.	Pennsylvania Power & Light Co.	30

* All data on this company in the 12 FPC tables are those of Niagara Mohawk Power Corp and Nia Power Co.

Electric Operating Revenue

Rank '50	Rank '49		
1.	1.	Consolidated Edison Co.	$27
2.	3.	Pacific Gas & Electric Co.	16
3.	2.	Commonwealth Edison Co.	16
4.	4.	Detroit Edison Co.	14
5.	5.	Public Service Electric & Gas Co.	13
6.	7.	Niagara Mohawk Power Corp.	13
7.	6.	Philadelphia Electric Co.	13
8.	8.	Southern California Edison Co.	10
9.	9.	Consumers Power Co.	8
10.	NL	Ohio Edison Co.	7

Electric Operating Income

Rank '50	Rank '49		
1.	2.	Pacific Gas & Electric Co.	$4
2.	1.	Consolidated Edison Co.	3
3.	3.	Public Service Electric & Gas Co.	3
4.	4.	Philadelphia Electric Co.	2
5.	8.	Detroit Edison Co.	2
6.	5.	Niagara Mohawk Power Corp.	2
7.	6.	Southern California Edison Co.	2
8.	7.	Commonwealth Edison Co.	2
9.	NL	Ohio Edison Co.	1
10.	NL	Consumers Power Co.	1

Total Kwhr Sales*
(Thousands)

Rank '50	Rank '49		
1.	4.	Niagara Mohawk Power Corp.	1
2.	1.	Pacific Gas & Electric Co.	1
3.	3.	Consolidated Edison Co.	1
4.	2.	Commonwealth Edison Co.	1
5.	5.	Philadelphia Electric Co.	
6.	7.	Detroit Edison Co.	
7.	6.	Southern California Edison Co.	
8.	9.	Duke Power Co.	
9.	8.	Public Service Electric & Gas Co.	
10.	10.	Ohio Power Co.	

* Includes sales of power purchased

Hydro Plant Capacity
(Kilowatts)

Rank '50	Rank '49		
1.	3.	Niagara Mohawk Power Corp.	1,275,834
2.	1.	Pacific Gas & Electric Co.	1,134,430
3.	2.	Duke Power Co.	497,273
4.	4.	Southern California Edison Co.	441,020
5.	5.	Alabama Power Co.	434,500
6.	7.	Montana Power Co.	366,840
7.	NL	Carolina Aluminum Co.	289,500
8.	8.	Georgia Power Co.	286,030
9.	9.	Susquehanna Power Co.	252,000
10.	NL	Idaho Power Co.	237,931

Hydro Generation
(Thousands of Kwhr)

Rank '50	Rank '49		
1.	1.	Pacific Gas & Electric Co.	7,169,152
2.	7.	Niagara Mohawk Power Corp.	6,148,434
3.	2.	Southern California Edison Co.	4,526,964
4.	4.	Montana Power Co.	2,734,248
5.	5.	Alabama Power Co.	2,010,777
6.	NL	Susquehanna Electric Co.	1,655,009
7.	8.	Carolina Aluminum Co.	1,590,859
8.	NL	Idaho Power Co.	1,577,654
9.	10.	Puget Sound Power & Light Co.	1,567,811
10.	NL	Washington Water Power Co.	1,347,035

Steam Plant Capacity
(Kilowatts)

Rank '50	Rank '49		
1.	1.	Consolidated Edison Co.	2,727,700
2.	2.	Commonwealth Edison Co.	1,871,500
3.	5.	Philadelphia Electric Co.	1,540,250
4.	4.	Detroit Edison Co.	1,500,000
5.	3.	Public Service Electric & Gas Co.	1,495,300
6.	6.	Niagara Mohawk Power Corp.	1,137,350
7.	9.	Pacific Gas & Electric Co.	1,050,240
8.	NL	Ohio Edison Co.	983,750
9.	10.	Ohio Power Co.	924,000
10.	8.	Consumers Power Co.	885,250

Steam Generation
(Thousands of Kwhr)

Rank '50	Rank '49		
1.	1.	Consolidated Edison Co.	11,916,124
2.	2.	Commonwealth Edison Co.	8,965,039
3.	3.	Detroit Edison Co.	8,092,883
4.	4.	Public Service Electric & Gas Co.	7,081,657
5.	5.	Philadelphia Electric Co.	6,781,883
6.	7.	Ohio Power Co.	5,919,488
7.	8.	Niagara Mohawk Power Corp.	5,437,929
8.	NL	Duke Power Co.	5,458,031
9.	NL	Ohio Edison Co.	5,261,343
10.	NL	Appalachian Electric Power Co.	4,877,446

Internal Combustion Capacity
(Kilowatts)

Rank '50	Rank '49		
1.	1.	Northern States Power Co.	26,480
2.	2.	Iowa Public Service Co.	25,915
3.	4.	Western Light & Telephone Co.	22,733
4.	3.	Otter Tail Power Co.	21,355
5.	5.	Iowa Electric Light & Power Co.	20,353
6.	7.	Arizona Edison Co.	19,545
7.	6.	Community Public Service Co.	18,230
8.	8.	Tucson Gas, Electric L&P Co.	15,140
9.	9.	Southwestern Public Service Co.	14,518
10.	10.	Florida Power & Light Co.	13,406

Internal Combustion Generation
(Thousands of Kwhr)

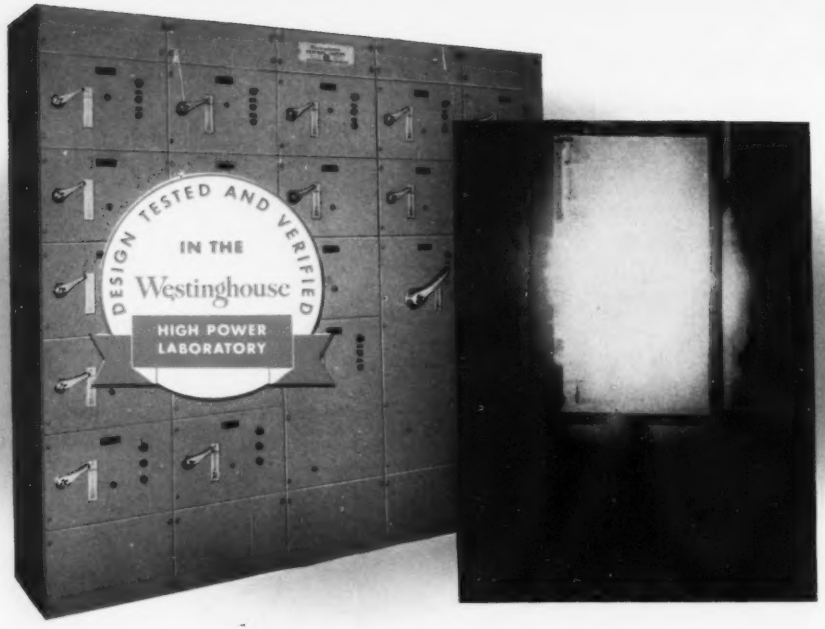
Rank '50	Rank '49		
1.	3.	Arizona Edison Co.	68,487
2.	2.	Western Light & Telephone Co.	52,261
3.	1.	Iowa Public Service Co.	48,379
4.	5.	Iowa Power & Light Co.	35,337
5.	8.	Maine Public Service Co.	28,596
6.	7.	Northwestern Light & Power Co.	27,293
7.	4.	Michigan Public Service Co.	25,980
8.	NL	Iowa Electric Light & Power Co.	22,276
9.	NL	Northwestern Public Service Co.	21,693
10.	NL	Central States Electric Co.	21,298

Total Plant Capacity
(Kilowatts)

Rank '50	Rank '49		
1.	1.	Consolidated Edison Co.	2,727,700
2.	5.	Niagara Mohawk Power Corp.	2,413,184
3.	2.	Pacific Gas & Electric Co.	2,185,320
4.	3.	Commonwealth Edison Co.	1,871,500
5.	7.	Philadelphia Electric Co.	1,540,250
6.	6.	Detroit Edison Co.	1,508,800
7.	4.	Public Service Electric & Gas Co.	1,495,300
8.	8.	Duke Power Co.	1,297,248
9.	9.	Southern California Edison Co.	1,116,520
10.	10.	Consumers Power Co.	1,052,045

Total Generation
(Thousands of Kwhr)

Rank '50	Rank '49		
1.	1.	Consolidated Edison Co.	11,916,124
2.	6.	Niagara Mohawk Power Corp.	11,586,364
3.	2.	Pacific Gas & Electric Co.	11,096,512
4.	3.	Commonwealth Edison Co.	8,965,039
5.	5.	Detroit Edison Co.	8,130,218
6.	4.	Southern California Edison Co.	7,965,305
7.	7.	Public Service Electric & Gas Co.	7,081,657
8.	8.	Philadelphia Electric Co.	6,781,883
9.	9.	Duke Power Co.	6,775,960
10.	10.	Ohio Power Co.	5,929,545



What other control center gives you this

TESTED PROTECTION

Your control center holds the life line to your motors. Such guardianship demands top-quality construction, at *every* point, to provide complete protection.

Westinghouse Control Centers are built to give you this protection and laboratory tested to prove it:

1. **Complete Baffling** of each starter unit in Westinghouse Control Centers is a typical example of the fruits of this thorough testing at the Westinghouse High Power Laboratory. When interrupting a short circuit on a starter unit of non-baffled design, tests showed the short circuit could spread throughout the entire structure. Each Westinghouse starter unit is completely baffled to prevent these explosive chain reactions. Unusual arcing is localized if faults occur.

2. **Ample Interrupting Capacity** is another tested feature of Westinghouse Control Centers. Each starter circuit breaker has a capacity of interrupting a fault current of not less than 15,000 RMS amps.

3. **Sturdy, Self-Supporting, Tight Structures** also are on the list of Westinghouse quality features. Each panel is built to stand by itself and to protect the internal electrical equipment.

You will want to know of the many other points of quality that make up Westinghouse Control Centers. Write for your copy of Booklet B-4213 which contains all the facts. Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

J-27010

YOU CAN BE SURE... IF IT'S
Westinghouse

CONTROL CENTERS

N. Y. Authority Studying State Interconnections

A study of how power from the proposed Niagara and St. Lawrence projects could be most economically poured into existing systems of private companies for transmission and distribution is being made by the Power Authority of the State of New York. Major companies have contributed data and have been invited to participate in network analyzer studies being made at General Electric Co, Schenectady.

The study will reveal what new facilities, voltage arrangements, and interconnections would be required by 1960 to achieve maximum economies in rates and in operations of systems.

Aluminum has crept into the picture as a complicating factor. Several companies doubt that if more aluminum potlines are installed there will be much power left for their systems. Niagara is to have 1,132,000 kw of dependable power, St. Lawrence about 940,000 kw.

A further drain on the output of the St. Lawrence project would be the demand of other states for their share of the power produced.

•

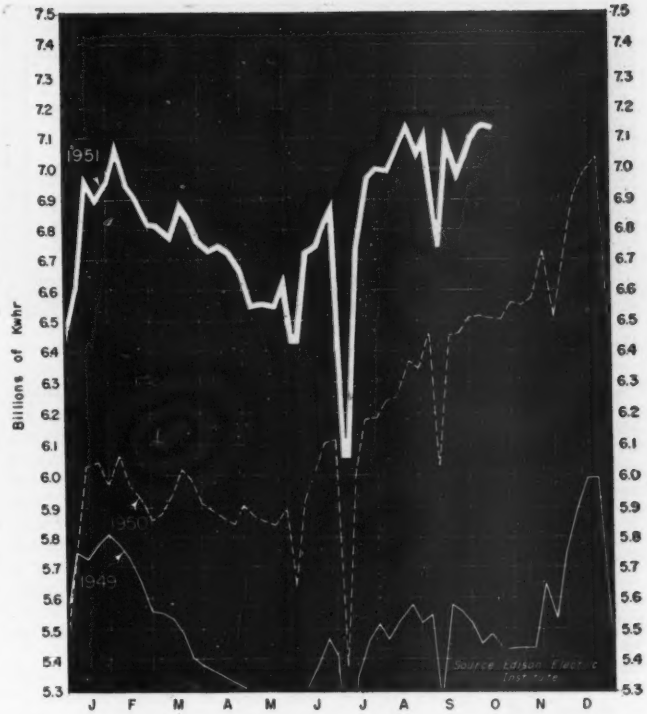
Plans to Bring Alberta Natural Gas to Northwest

Plans are going ahead for bringing natural gas to the Pacific Northwest from Canadian fields.

Applications recently filed with the Federal Power Commission by a subsidiary of Montana Power Co ask for permission to build and operate a 626-mile pipeline system and import gas from Alberta. Glacier Gas Co, the Montana Power subsidiary, proposes to sell gas from the system at both wholesale and retail rates in northwestern Montana, northern Idaho, and eastern Washington.

The main line would cross the border northeast of Kalispell, Mont., and run to Spokane.

The gas, from the Pincher Creek field in southwestern Alberta, would be purchased from West-coast Transmission Co, Ltd, at a point near Kalispell. Part would be redelivered to that company at the British Columbia terminus of the proposed system. Westcoast Transmission is seeking authority from Alberta to export a maximum of 25 billion cu ft annually.



Output Week Ended Oct. 20—7,149,458,000 Kwhr

Weekly Output, Millions Kwhr		
1951	1950	1949
Oct 20 7,149	Oct 21 6,503	Oct 22 5,430
Oct 13 7,160	Oct 14 6,509	Oct 15 5,481
Oct 6 7,156	Oct 7 6,514	Oct 8 5,450
Sept 29 7,102	Sept 30 6,503	Oct 1 5,521
Sept 22 7,014	Sept 23 6,457	Sept 24 5,556
Sept 15 7,138	Sept 16 6,449	Sept 17 5,579
Sept 8 6,795	Sept 9 6,029	Sept 10 5,258
Sept 1 7,146	Sept 2 6,459	Sept 3 5,544
Aug 25 7,077	Aug 26 6,346	Aug 27 5,523
Aug 18 7,164	Aug 17 6,370	Aug 16 5,579

Per Cent Change from Previous Year			
	Oct 20	Oct 13	Oct 6
New England	+ 3.7	+ 3.1	+ 5.1
Mid-Atlantic	+ 7.5	+ 7.6	+ 8.7
Central Industrial	+ 6.6	+ 6.5	+ 6.2
West Central	+11.9	+12.0	+10.7
Southeast	+14.2	+13.4	+12.0
South Central	+18.7	+21.9	+26.5
Rocky Mountain	+10.8	+ 9.7	+10.5
Pacific Coast	+11.3	+12.0	+ 8.9
Total United States	+ 9.9	+10.0	+ 9.9

MEETINGS

Southeastern Electric Exchange
Sales Conference, Roosevelt Hotel, New Orleans, La., Oct. 31, November 1-2.

Pennsylvania Electric Association
Prime Movers Committee, Fort Stanwix Hotel, Johnstown, Pa., November 1-2; Systems Operation Committee, Split Rock Lodge, Split Rock, Pa., November 8-9.

Electrical Inspectors' Association of British Columbia
Annual Conference, Hotel Georgia, Vancouver, B. C., November 2-3.

Texas A. and M. College
Public Utility Short Course for Electrical Metermen, College Station, Tex., November 5-9.

Northwest Public Power Association
Accounting Section, Governor Hotel, Olympia, Wash., November 8-9.

National Electrical Manufacturers Association
Chalfonte-Haddon Hall, Atlantic City, N. J., November 12-15.

California Municipal Utilities Association
Annual Conference, Hotel Leamington, Oakland, Calif., November 13-16.

Wisconsin Utilities Association
Electric-Gas Sections, Sales-Engineering Divisions, Schroeder Hotel, Milwaukee, Wis., November 14-16.

Instrument Society of America
Boiler Instrumentation Symposium, Bellevue-Stratford Hotel, Philadelphia, Pa., November 15.

New Jersey Utilities Association
Annual Meeting, Seaview Country Club, Absecon, N. J., November 15-17.

American Society of Mechanical Engineers
Annual Meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., November 26-30.

Westinghouse Electric Corporation
4-H Farm-Home Electric Program Conference, Hotel Stevens, Chicago, Ill., November 28.

Pacific Coast Electrical Association
Annual Hawaiian Conference, Royal Hawaiian Hotel, Honolulu, T. H., November 29-30.

American Institute of Electrical Engineers
Feedback Control Conference, Chalfonte-Haddon Hall, Atlantic City, N. J., December 6-7.

Public Utilities Advertising Association
Region 2 Meeting, Advertising Club of New York, New York, N. Y., December 7.

YIELDS (%).—Operating Electric Utility Securities

Quality	Bonds			Preferred Stocks			Common Stocks		
	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd
DATE									
1951									
Oct. 18	2.91	2.96	3.09	4.13	4.34	4.67	5.44	6.21	7.01
Oct. 11	2.88	2.92	3.07	4.09	4.30	4.63	5.46	6.21	6.97
END OF QTR.									
3rd 1951	2.87	2.91	3.04	4.05	4.27	4.61	5.52	6.24	7.05
2nd 1951	3.02	3.11	3.23	4.11	4.37	4.68	5.73	6.38	7.78
1st 1951	2.87	2.93	3.00	3.96	4.19	4.52	5.47	6.20	7.13
4th 1950	2.65	2.67	2.78	3.86	4.14	4.51	5.80	6.54	7.44

Data: Reis & Chandler, Inc.

Utility Operating Revenues in August Increase 9.5%

Electric operating revenues of the larger privately owned utilities in the United States in August totaled $434,034,000, an increase of 9.5% over August, 1950, according to preliminary figures announced by the Federal Power Commission. August, 1950, revenues amounted to $396,219,000.

Gross income in August, including other utility operating income, totaled $79,336,000, an increase of 2.8% for the month. Net income of $53,967,000 showed a fractional percentage increase over the $53,921.000 reported for August, 1950.

Revenue reductions, including operating expenses, depreciation, and taxes, were $358,261,000, or 10.7% above those of August, 1950.

•

New Hampshire Utility Seeks Emergency Relief

Public Service Co of New Hampshire needs to raise $5 million in common stock this year to finance new construction. On Oct. 19 it asked the Public Utilities Commission for authority to do this and also to increase immediately its electric rates by a 7% surcharge to meet emergency conditions. The company filed a new set of permanent rates aggregating a 10% increase, including the surcharge.

In seeking emergency relief the company noted that its 5.09% earnings in 1951 were falling far short of the 5.41% return the PUC expected the company would receive when it granted $600,000 in new revenue last July after a 19-month hearing. With average hydro conditions the company needs at least $979,504 in increased rates to achieve the 5.41% return.

After applying this amount the total increase in rates will be about $600,000 below the $2.25 million sought by the company in the protracted rate case. The proposed new schedule would increase industrial rates by 8.4% (or about 1 mill per kwhr), raise domestic rates by 12%, and commercial rates by 11%. Except for street lighting a prime power rate advance of 7% would be included in the emergency relief. If estimated 1951 earnings are adjusted for an average water year the return will be but 4.81%.

Unless relief is granted, the company states, it will be difficult to finance its $14.8 million construction program for the next two years.

FINANCIAL BRIEFS

Village of Lebanon, Ohio, trustees have approved an approximate 10% reduction in electric rates . . . **British Columbia Electric Co** has won final approval from PUC on interim increased rates of 11.2% for residential and light industrials granted Mar. 12 and 15% for commercial and industrials granted Aug. 1 . . . A long-pending electric power rate case has been appealed to the Vermont Supreme Court for second time by **Citizens Utilities Co** . . . **Florida Power Corp** will have to refund $700,000 in excess rates but will pay no interest, Circuit Judge Victor O. Wehle ruled in signing the final decree in the company's suit. Company will appeal to the state Supreme Court.

Common stockholders of Long Island Lighting Co at their special meeting voted to create a new mortgage to permit issuance of additional bonds, to authorize 300,000 new preferred shares, and to increase authorized common stock by 2 million shares . . . Sale of 249,942 shares of $100 par preferred of **Public Service Electric & Gas Co** has been postponed.

Electric Utility Financing

Company	Description	Amount of Offering (000)	Offering Price	Yield at Price to Public
	WEEK OF OCTOBER 18-24			
Bonds				
Wisconsin-Michigan Power	1st mtg, 3¼% 1981 new money	$ 3,500	102.31%	3.50%
Preferred Stock				
Pacific Gas & Electric	1.5 million, 1st pfd, 5% $25 par new money	37,500	$25.50	4.90
Common Stock				
Public Service of Indiana	324,656 sh (1-for-10, record Oct. 8 to expire Oct. 24)	9,131	28.125	6.40
	WEEK OF OCTOBER 25-31			
Bonds				
Utah Power & Light	1st mtg 1981	$ 9,000	.....	.....
Ohio Power	1st mtg 1981	15,000	.....	.....
Ohio Power	serial notes 1955/66	7,000	.....	.....
West Texas Utilities	1st mtg 1981	8,000	.....	.....
	SCHEDULED NOVEMBER-DECEMBER			
Bonds				Bid Date
Rockland Light & Power	1st mtg	$ 6,000		Nov. 7
Florida Power & Light	1st mtg	10,000		Nov. 14
Detroit Edison	gen. and ref bonds 1976	40,000		Nov. 14
Gulf States Utilities	1st mtg	10,000		Nov. 19
Central Illinois Light	1st mtg	8,000		Nov. 27
Virginia Electric & Power	1st mtg	20,000		Dec. 20
Preferred Stock				
Long Island Lighting	100,000 sh, $100 par	$10,000		Nov. 7
Commonwealth Edison	1,716,500 sh, cum conv, $25 par (to common holders on ratio of 1 sh pfd for each 8 common sh held on Oct. 30)	42,913		Nov. 14*
Common Stock				
Consumers Power	561,517 sh (1-for-10, record Oct. 17 to expire Nov. 2)	$17,969	$32.00	6.25%
Long Island Lighting	524,949 sh (1-for-7, record Oct. 24 to expire Nov. 8)	6,824	13.00	6.15

* Expiration date

IN THE INDUSTRY

KEN KOST

The preference clause is the curse of the industry. It is a bribe to people to swap private for public power. The preference clause is written into federal laws providing for power projects. Under this provision federal agencies, state power authorities, municipalities, and REA-financed co-ops get preference in buying power from the project. Their customers are preferred in distribution of this practically tax-free power at the expense of neighbors who pay the taxes to build and operate the projects.

In addition the Interior Department has taken the stand that it is obligated by law to build transmission lines from federal projects to serve these preferred customers. Interior has even insisted on this right when investor-owned companies have offered to "wheel" power to preferred customers at little or no profit to themselves.

A Wave of Indignation Is Rising

But lately there has been rising a wave of indignation at the unfairness of laws which give the customer of the public power supplier a preference over other heavier taxpaying Americans. Reflecting this wave is this statement by George R. Jones, member of the Idaho Public Utilities Commission, made to Electrical World following the passage by the National Association of Railroad and Utilities Commissioners of a resolution condemning the preference clause (See news pages):

"It is my belief that it has never been the intention of the legislative branch of our federal government to establish it as the proprietor of a monstrous electric utility competing for markets with utilities drawing their investment from the very people who by taxation have provided the funds for the federal government to make the monumental improvements, the by-product of which is electricity. Statements made by the more responsible federal executive authorities in the 1930's indicate that this was never the intention of any law presented to Congress for enactment.

The Preference Clause Has Been Distorted

"The will of Congress is stretched to include interpretations and practices which have been built up by various bureaus. Thus these clauses constitute one of the main bases for the federal government to engage in the power business on a subsidized, special privilege basis in competition with the tax-paying electric companies. They are the excuse given for the promotion by federal agencies of local, public bodies whose purpose is to take over existing distribution facilities from private utilities and market the power on a tax-free, or nearly tax-free, base, on terms dictated by the agency. They are the pretext for unnecessary spending of great sums of tax moneys, money which would be more effective in the public interest if used for water conservation projects, the drainage of swamps, and the irrigation of desert lands.

"We have now reached a point where so-called preference legislation is bringing about the very discrimination that was intended to be done away with by the creation of the utility commissions. No one of us (commissioners) would, if we lawfully could, permit a supplier of electric power to favor one town over another as far as rates or availability of service is concerned or permit benefits to accrue to one area while being denied to other areas. Under the so-called preference provisions these very things have been done, are being done, and will continue to be done to the detriment of all but those groups served by preference agencies, ironically enough being financed by the taxes paid by those against whom this discrimination works the greatest evil.

"It is therefore the duty of those of us who have undertaken to preserve the rights of the general public in utility matters to take such steps as are necessary to correct this unjust situation. Power users are entitled to equal treatment from government agencies regardless of their immediate supplier of electricity. The right to obtain government power should be in accordance with the requirements of public convenience and necessity and not the basis of ideologies imposed by or interpreted into law. The time has come for a full review of the entire problem."

TECHNICAL NOTES

ARCHER E. KNOWLTON

Spreader-stoker firing is in its infancy and cross-firing offers a significant advance in practice as well as economy in capital charges and auxiliary consumption.

Ski-jump type spillways are part of the roof of the power house for a French hydro development.

Speech can be blanked off and music retained by a new discriminating circuit for radio reception. Four tubes suffice to differentiate and squelch the commercials, spiels, and blurbs.

Vibration effects in materials subjected to ultrasonic energy can be observed with a new microscope announced in Germany.

Buried toll cables are being sheathed with a layer of polyethylene and, outside it, a 0.1 inch layer of lead; Bell Labs calls it Lepeth.

Alpeth sheath (polyethylene-aluminum) will help reduce the 115,000 tons of lead used annually for telephone cable.

Fluorocarbon, polytetrafluorethylene, and polymonochorotrifluoroethylene have, as prospective impregnant components for Class H insulation, reached the stage where silicones were seven or eight years ago.

Heat developed up to now in nuclear reactors has been thrown away as quickly and effectively as millions of dollars of outlay could achieve.

Polyvinyl chloride has higher dielectric loss at high frequency than polyethylene because the PVC molecule is polar (unsymmetrical) and responsive to molecular vibration which increases internal loss.

NEWS ABOUT PEOPLE

Sam Littlejohn Elected Commercial VP by GE

Sam Littlejohn has been elected commercial vice president of General Electric Co.

The former manager of the Atlantic district office of the company's ap-

SAM LITTLEJOHN

paratus organization in Philadelphia will be engaged in customer relations activities and will make his headquarters in Cleveland.

Littlejohn joined GE as a student engineer on the Test Course in 1917. Shortly afterwards he entered the armed services and returned to the company in 1919. The following year he went to Philadelphia as a sales engineer and in 1935 was appointed Atlantic district transportation manager for GE's apparatus department.

In 1945 Littlejohn became Atlantic district industrial manager and in 1948 Atlantic district manager.

•

J. B. Laramy, assistant manager of Worthington Pump & Machinery Corp's Chicago district office for the past six years, has been appointed manager of the company's marketing research department. He is being succeeded in the Chicago district office by **J. T. Carroll.**

Oliver O. Rands, assistant power manager of the Bureau of Reclamation's Region II at Sacramento, Calif., has been made chief of the power division. He replaces **Henry B. Taliaferro,** who has been transferred to Reclamation's Washington, D. C., office.

James A. Lyons has been elected president of Kentucky Rural Electric Cooperative Corporation. He has been head of the group since July when he filled out the term of H. L. Spurlock who resigned. Lyons' new term runs for a year.

•

S. Morgan Smith Makes Hochwalt Sales Manager

S. Morgan Smith Co, York, Pa., has appointed George C. Hochwalt sales manager to succeed Daniel J. McCormack who is retiring after 28 years with the company. Hochwalt has been manager of the Chicago sales office since 1931.

In his new position Hochwalt will be responsible for the operation of the company's sales offices in York, Chicago, Boston, San Francisco, Toronto, and Mexico. He also will have charge of sales representatives in South America, Portugal, and Turkey.

Hochwalt joined Smith in 1920 and has served in various capacities in the design, estimating, engineering, and sales departments in the York office. He spent six months of this year as chief of the Hyraulic Turbine Section of the National Production Authority.

•

Bruno V. Nordberg has been named sales engineer of the four-cycle engine department, Heavy Machinery Division, of Nordberg Manufacturing Co, Milwaukee. Nordberg, grandson of the founder and son of the former executive engineer of the company, joined the firm in 1946 and was assigned as a test and erection engineer. At the time of appointment, he was engaged in engineering installation.

Pierce C. Holladay has been promoted to assistant manager of Carolina Power & Light Co's Sumter district.

American Welding Society Elects Jennings Its Head

Charles H. Jennings, engineering manager of Westinghouse Electric Corp's welding department, has been elected president of the American Welding Society.

The new president has been with

C. H. JENNINGS

Westinghouse Electric Corp since 1929. He first became attached to the Mechanics Division of the company's research laboratories at East Pittsburgh and later transferred to the chemical and metallurgical department where he had charge of all welding research. In 1942 Jennings was made section engineer of the welding section and two years later engineering manager of the welding department. He received the company's Silver "W" and Order of Merit for distinguished service in welding research and applications.

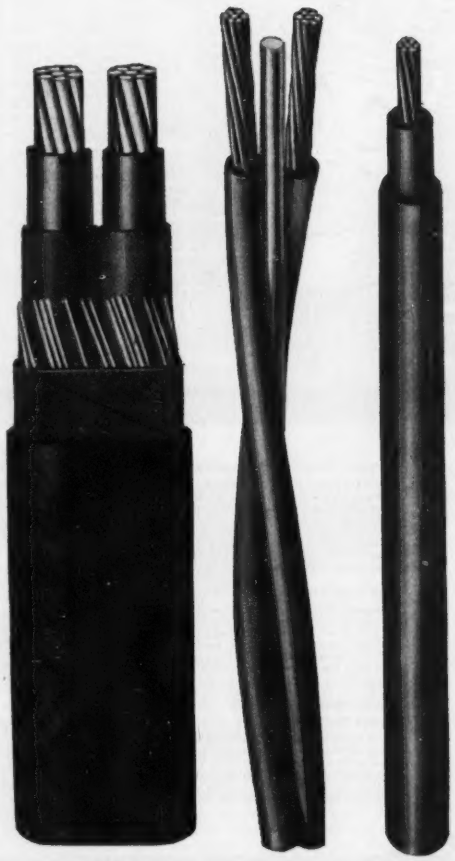
Active in American Welding Society for twenty years, Jennings has served as first and second vice president of the organization.

•

Edwin O. George, assistant commercial manager for Detroit Edison Co since 1948, has been made commercial manager. He succeeds Roy T. Duncan who has retired. George joined the utility in 1929 starting as a commercial office clerk. In 1935

(*Continued on page 27*)

SERVICE ENTRANCE CABLES



TYPE SE TYPE SS TYPE USE

Roebling makes a wide line of service entrance and service drop cables

SERVICE CABLES are an important part of Roebling's complete line of electrical wires and cables. Whatever your requirements for getting electrical energy from the utility's secondary to the meter, the right Roebling underground or overhead cable will give you the fullest measures of dependability...and economy.

All types and styles of Roebling Service Entrance Cable are made in the constructions best adapted for their own particular service range. From copper wires to protective jackets these cables are made entirely in Roebling plants where modern machines and methods assure highest, uniform quality.

A large part of Roebling's complete wire and cable line is required in today's rearmament program. You can count on the Roebling organization and distributors, however, to give you the best possible delivery service. John A. Roebling's Sons Company, Trenton 2, New Jersey.

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Atlanta, 934 Avon Ave ★ *Boston*, 51 Sleeper St ★ *Chicago*, 5525 W. Roosevelt Rd ★ *Cincinnati*, 3253 Fredonia Ave ★ *Cleveland*, 701 St. Clair Ave, N.E. ★ *Denver*, 4801 Jackson St ★ *Detroit*, 915 Fisher Building ★ *Houston*, 6216 Navigation Blvd ★ *Los Angeles*, 216 S. Alameda St ★ *New York*, 19 Rector St ★ *Odessa, Texas*, 1920 E. 2nd St ★ *Philadelphia*, 230 Vine St ★ *San Francisco*, 1740 17th St ★ *Seattle*, 900 1st Ave, S. ★ *Tulsa*, 321 N. Cheyenne St ★ Export Sales Office, *Trenton, N. J.*

Keep Operating Costs down with "HIPERCORE"

Keep operating costs down by reducing transformer outages. Savings obtained by economical system planning and efficient operation can be wiped out quickly by a higher-than-average transformer mortality rate.

It takes more than high electrical efficiency or low exciting current, or low impedance to make a transformer economical. It takes built-in ruggedness with ability to withstand severe overloads, lightning surges and intermittent secondary faults. It takes *balanced design* . . . no one feature exploited at the expense of another. The chain is no stronger than its weakest link.

For low overall cost over a period of years, specify Moloney HiperCore Distribution Transformers.

Improved Short-Time Overload Capacity

Improved short-time overload characteristics provide better peak load performance and longer life. Reduced coil mass, achieved through use of oriented steel cores together with the extensive use of cooling ducts, results in more rapid cooling of windings and lower hottest-spot temperature gradient.

High Surge Resistance

Moloney HiperCore Transformers are designed to withstand lightning surges well in excess of the minimum requirements. A high factor of safety in properly distributed insulation and vacuum processing produce the ultimate in overall dielectric strength.

Greater Mechanical Strength Against Short Circuit Forces

Coils are made mechanically rigid through the use of heat curing bonding material. The coils are blocked solidly by the impregnated core which is in turn banded with tons of force, providing maximum strength against short circuit forces.

MOLONEY ELECTRIC

- LONGER OPERATING LIFE
- HIGH FACTOR-OF-SAFETY IN DESIGN
- LIGHTER WEIGHT
- SMALLER SIZE
- BETTER VOLTAGE REGULATION
- SUPERIOR TAP CHANGER

MOLONEY ELECTRIC COMPANY

FACTORIES AT ST. LOUIS 20, MISSOURI AND TORONTO, ONTARIO, CANADA

SYLVANIA Light Bulbs mean BRIGHTER BUSINESS because:

In response to your requests, Sylvania 4-Packs are pre-price-marked with suggested retail list prices on the cartons . . . on the sleeves . . . on the bulbs.

1. New Popular Premium Offer: All-Aluminum HANDY-TONGS

Only **25¢** with the outside of a Sylvania 4-Pack

2. National Advertising *plus* Big Weekly TV Show

Big space advertising in *Look*, *McCall's*, *Good Housekeeping*, *Better Living*, and *Everywoman's Magazine* will tell millions about the Handy-Tongs offer. This premium will also be demonstrated on the nationwide TV show "Beat the Clock."

3. FREE Bright, Appealing Store Displays

Colorful window streamers and counter cards are furnished free. Eye-catching ad mats for local newspapers are also offered free of charge. As the first step toward brighter bulb business, mail the coupon NOW!

50 YEARS OF PROGRESS

SYLVANIA

LIGHT BULBS; FLUORESCENT TUBES, FIXTURES, SIGN TUBING, WIRING DEVICES; RADIO TUBES; TELEVISION PICTURE TUBES; ELECTRONIC PRODUCTS; ELECTRONIC TEST EQUIPMENT; PHOTOLAMPS; TELEVISION SETS

Sylvania Electric Products Inc.
Dept. L-7210, 1740 Broadway
New York 19, N. Y.

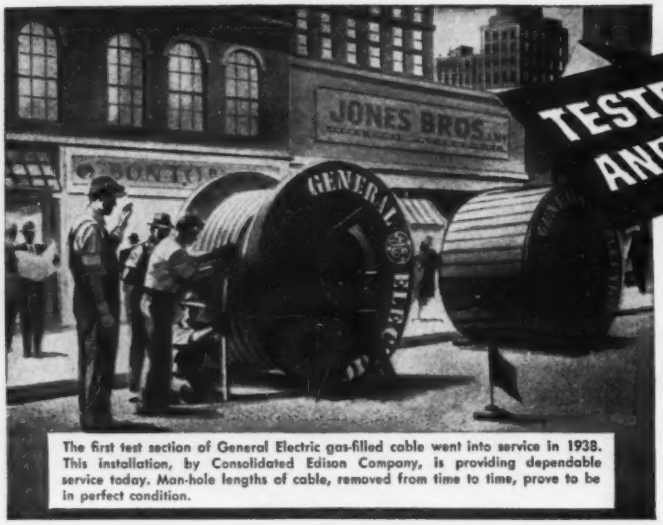
Please send me full details about Sylvania's big fall light bulb promotion plan (I-543).

Name_____

Street_____

City_____ Zone____ State____

GAS-FILLED CABLE



The first test section of General Electric gas-filled cable went into service in 1938. This installation, by Consolidated Edison Company, is providing dependable service today. Man-hole lengths of cable, removed from time to time, prove to be in perfect condition.

TESTED AND PROVED

. . . by more than 1,000,000 feet now in successful operation!

Low-pressure gas-filled cable—From 10 to 15 lb per sq in.—three conductors, three gas channels, with lead sheath. For 10 to 46 kv operation.

Medium-pressure gas-filled cable—Approximately 45 lb per sq in.—three conductors, three gas channels, and reinforced lead sheath. For voltages above 46 kv.

High-pressure gas-filled cable—Pressures to 200 lbs per sq in.—single conductor, with reinforced, double lead sheath and center gas channel. For operation at 69 kv and above.

Right! Today, over a million feet of General Electric gas-filled cable are in service, with never a failure due to inherent causes.

From the first 5000-foot test section installed in 1938 to a recently-completed installation of more than 40,000 feet, G-E gas-filled cable has operated to the complete satisfaction of its users.

Experience proves conclusively that the stable insulating and impregnating compound used in General Electric gas-filled cable is not affected by the presence of nitrogen gas, limited amounts of oxygen, or even mild ionization. Tests on laboratory samples and on cables in actual service show no measurable deterioration. Even after years of normal use, lengths of cable removed from service proved to be in perfect physical and operating condition.

If you would like to have the advantages of self-supervision and dependability for your high-voltage transmission and distribution circuits, choose General Electric gas-filled cable.

For complete information on the many features of gas-filled cable, as well as operating and performance data, get your free copy of the booklet, *G-E Gas-filled Cable*. Write to Section W19-10-27, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

You can put your confidence in—

GENERAL ELECTRIC

News About People

(*Continued from page 22*)

he was made assistant supervisor of the commercial office division and supervisor of the division in 1943.

P. C. Spowart, sales manager of Seattle City Light, has been appointed assistant to the superintendent of the municipal system. He is a public relations specialist. In another appointment **E. E. Scott** was named assistant headworks superintendent for Skagit River projects. He will assist **Dana Currier,** headworks superintendent, who will retire soon.

Theodore C. Coe, assistant division manager of Central Illinois Light Co since 1950, has been made division manager. He succeeds **Clyde W. Organ,** vice president and division manager, who has retired after more than 35 years' service with the company. Coe started with Central Illinois 25 years ago and has held various positions in the sales department and later became general superintendent of the electric department. Organ joined the company in 1919 as plant superintendent at the Springfield Division. He was appointed general superintendent of the electric department in 1925 and division manager in 1939, becoming a vice president in 1942.

Robert C. Becherer, vice president of Link-Belt Co, Chicago, has been elected executive vice president. He joined Link-Belt in 1923 and since 1947 has been general manager of the company's Ewart plant in Indianapolis. He will be succeeded at Indianapolis by **Richard E. Whinrey,** assistant general manager there.

Charles Ebem Wilson has retired as sales vice president of Worthington Pump & Machinery Corp, Harrison, N. J. He will continue to serve as consultant on sales problems at the firm's West Coast offices. Wilson joined Worthington in 1892 as an office boy. He later was successively sales representative, manager of the Chicago sales territory, assistant general sales manager, and general sales manager. Named a vice president in 1934, Wilson served at Los Angeles until 1940 and recently in the New York and Harrison offices.

OBITUARY

James V. Toner

James V. Toner, 63, president of Boston Edison Co since 1941, died at West Newton, Mass., Oct. 19.

Toner, who taught accounting at Boston University for 13 years, first

J. V. TONER

became associated with Boston Edison as a business consultant. The utility was one of his accounts. He joined the firm in April, 1937, as auditor and several months later was made treasurer. Continuing as treasurer, Toner was elected vice president in September, 1937. The following year he was appointed executive vice president, and was made president in 1941.

•

Edwin W. Hammer

Edwin Wesley Hammer, 83, an associate of Thomas A. Edison and a pioneer in the commercial development of electricity, died at Montclair, N. J., Oct. 11. Hammer became associated with Edison and Edison Electric Light Co in 1884 and the following year was appointed assistant to the chief inspector at Edison's Central Station. He later served as manager and superintendent of the Edison Electric Illuminating Co at Fall River, Mass., and assistant engineer for New York Edison Co.

For several years Hammer exhibited Edison inventions at expositions and from 1891 to 1896 served as consultant on patents to the legal department of Edison Electric Light. From 1896 to 1911 he worked for General Electric Co and Westinghouse Electric Corp as a patent consultant. After 1911 Hammer became a consulting engineer in New York. He retired three years ago.

Hammer was one of the founders of the Edison Pioneers, an organization of Edison's associates and their descendants.

•

Albert Rohrer, 95, retired advisory engineer of General Electric Co, died at Maplewood, N. J., Oct. 18. He recruited and supervised the training of engineering personnel for GE from 1892 to 1914. Rohrer also served as electrical superintendent at the Schenectady (N. Y.) Works from 1892 to 1923 and advisory engineer from 1923 to 1926, when he retired. He began his career with a GE predecessor, Thomson-Houston Electric Co, in 1884.

George D. Conant, 59, retired commercial manager of Tide Water Power Co, died Oct. 16 at Wilmington, N. C. He joined the utility in 1940 and retired last June because of ill health. Conant previously worked for Florida Public Service Co and Arizona General Utilities Co.

John F. Bartlett, 82, retired patent attorney for General Electric Co, died at Schenectady, Oct. 18. He served the company for 37 years.

Harry E. Morton, 64, manager of the air handling engineering department, Sturtevant Division, of Westinghouse Electric Corp, died at Boston, Oct. 11. He joined B. F. Sturtevant Co in 1910 and became chief mechanical engineer in 1943. The company was taken over by Westinghouse in 1945.

Arnold Friend, 74, retired sales manager and treasurer of M. B. Austin Co, died Oct. 16 at Los Angeles, Calif. He had served the company for 50 years. Friend received the James H. McGraw Award for his service to the industry.

Eric Weidler, mechanical engineer for A. O. Smith Corp, died Oct. 14 while boarding a train at Harmon-on-Hudson, N. Y.

Charles W. Hadley, 75, chairman of the Illinois Commerce Commission from 1929 to 1932, died Oct. 11.

MANUFACTURERS and MARKETS

MODERN COPPER ROLLING MILL in the Locust Grove section of Oyster Bay, Long Island, N. Y., was put into operation recently by Circle Wire & Cable Corp, Maspeth, L. I. The $3-million plant contains 135,000 sq ft of manufacturing space and will fabricate copper bars and flatten and galvanize steel primarily for the company's use. Until now these operations had been performed by suppliers

Ceiling Prices on Lead, Zinc Scrap Are Raised

The government has raised ceiling prices on lead scrap by 2¢ a lb and on zinc by 1½¢ a lb.

The Office of Price Stabilization announced recently that the prices of these materials would be boosted as part of the program "to assure essential supplies of zinc and lead at stable and reasonable prices."

OPS said price orders likely would be issued soon allowing manufacturers to pass along these increased costs. This would mean that slightly higher price tags would have to be placed on such things as batteries, lead pipe, cables, wire, and all galvanized products.

The hike in scrap prices follows boosts of 2¢ a lb in ceilings on primary lead and zinc authorized Oct. 2 under an order by mobilization chief, Charles E. Wilson.

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Job Department Formed

Westinghouse Electric Corp has established a Professional Employment Department at its educational center in Wilkinsburg, Pa. G. D. Lobinger, former manager of student recruitment, will head the company's new department.

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Refined Copper Stocks Decline During September

Stocks of refined copper held in the United States by members of the Copper Institute, Inc, at the end of September totaled 62,093 tons, a decrease of 8,844 from the 70,937 held on Aug. 31.

During September deliveries to domestic fabricators increased to 121,629 tons compared with 104,938 in August. These figures include tonnages delivered from government stocks. Refined production, however, dropped to 74,104 tons from 79,613 a month earlier.

Outside the United States refined stocks amounted to 163,538 tons on Sept. 30, an increase of 2,269 over the 161,269 held on Aug. 31. September deliveries dropped to 74,131 tons from 83,607 in August and refined production was 101,133 tons compared with 105,907.

GE Sales Up in 9 Months, Net Profits Decline 24%

General Electric Co reported record sales for the first nine months of 1951 but higher taxes caused net profit to drop 24% under earnings for the corresponding period of 1950.

Net profits for the nine months totaled $85,936,000 compared with $112,919,000 earned in the first nine months of last year. Sales for the period amounted to $1,694,084,000 and pre-tax earnings $286,936,000. Sales increased 25% over last year and pre-tax earnings 36%.

Net profit in the nine-month period was equal to $2.98 per common share as against $3.91 a year earlier.

"Per dollar of sales, federal taxes took 11.9¢ out of each 16.9¢ of pre-tax earnings, leaving only 5¢ as net profit for our stockholders in the first nine months of this year," GE's president, Ralph J. Cordiner pointed out.

The company declared a dividend of 75¢ a share on common stock for the third quarter, making a total of $2.25 a share in dividends for the first nine months of this year compared with $1.80 for the same period last year.

MANUFACTURING BRIEFS

Total primary aluminum production in the United States during August was 147,630,992 lb, the Aluminum Association has reported. The August figure topped July's 145,395,271 lb by more than 2 million lb.

Allen B. Du Mont Laboratories' television receiver plant at East Paterson, N. J., is being converted to produce military electronic components. Two of the plant's four production lines have been allocated to government production.

The largest single-shaft turbo-generator ever built for industrial power production has been put into operation at United States Steel Co's South

Works, South Chicago, Ill. The 60,000-kw unit has a boiler with a capacity of 650,000 lb per hour operating at 900 lb, 900 deg F. Power generated at 13.8 kv is transmitted to the company's Gary district plants. An underground duct system transmits the current to a 77,000-kva transformer in the outdoor substation where the voltage is stepped up to 69 kv for transmission over two existing overhead circuits.

Common stockholders of Sylvania Electric Products, Inc, will vote Nov. 19 on the issuance of 200,000 shares of new convertible preferred stock and an increase of the authorized common stock by a sufficient number of shares to satisfy conversion rights of the proposed preferred. The company expects to receive up to $20 million from the sale of the preferred and to retire $17.2 million of 3¼% debentures, its entire funded debt.

Construction work on an office and warehouse building for the Birmingham branch of Graybar Electric Co is now underway. The new building will be one-story high and will contain 40,000 sq ft of space for office and warehouse facilities.

SALES ASSIGNMENTS

COMPANY STAFFS

General Electric Supply Corp has established a new Fresno District. Formerly part of the San Francisco and Los Angeles districts, the new district will be headed by William L. Duncan.

Blackhawk Manufacturing Co, Milwaukee, has named Bernard Robertson its representative in the northwestern states and Sterling Couch representative in western Arkansas and eastern Oklahoma. Robertson's territory includes Washington, Oregon, northern California, Nevada, and northern Idaho.

A. O. Smith Corp, Milwaukee, has appointed John B. Madden hydraulic sales manager for the North Central district. The former product supervisor originally operated hydraulic sales from the company's Houston Works.

Metal Prices
Oct. 22, 1951

COPPER, Conn., V., lb.	$ .24½
LEAD, N. Y., lb.	.19
ZINC, prime Western, E. St. Louis, lb.	.19½
TIN, Straits, qual. N. Y., lb.	1.03
ALUMINUM, ingot, base price	.19
NICKEL, base price	.56½
STEEL, billets, Pitts., ton	56.00
STEEL, scrap, No. 1 heavy, Pitts., ton	45.00

NEW ELECTRICAL CONSTRUCTION

A weekly selection of U. S. electrical construction projects announced by private and government utility systems involving more than $70,000. Also listed are major industrial and construction jobs where electrical work is indicated or implied

UTILITIES

Proposed Construction

Arizona and Nevada—Bureau Reclamation, Dpt. Interior, Bldg. 53, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Tucson, Ariz., capacitor equipment, circuit breaker, disconnecting switches, lightning arresters, for Tucson sub-station, Davis Dam Proj., Spec. DS 3571. L. N. McClellan, ch. engr.

Ark., El Dorado—Arkansas Power & Light Co., Simmons Natl. Bldg., Pine Bluff, erecting sub-station, **$250,000.**

California—Oroville—Wyandotte Irrigation Dist., James Bruce, dir., Oroville, constr. hydro-electric project, incl. rock-fill dam 150 ft. high across south fork of Feather River creating the Grass Valley Reservoir, concrete arch dam 136 ft. $26,200,000.

Calif., Oakland—P. Wks. Office, Twelfth Naval Dist., Federal Office Bldg., San Francisco, lighting system for Hangar Bldg. 6 at U. S. Naval Air Station, NOY 28871, Spec. 30495.

D. C., Wash.—Potomac River Naval Command, Naval Gun Factory, providing addnl. power supply from Building 4 to Building 20, incl. excav., electric duct work, constr. new manhole, repairs to roads and pavements, installing underground cable, circuit breakers and panel boards, NOY 70522. Plans deposit $10.

Ind., Richmond—Bd. P. Wks., B. F. Harris, chn., City Hall, municipal power plant 30,000 kw turbogenerator, 28,000 sq. ft. surface condenser; 325,000 lb. per hr steam generating plant, power transformer, metal clad switch gear, duplex switch board, battery and charging equip., outdoor circuit breakers, high voltage sub-station, $1,000,000. Black & Veatch, 4706 Broadway, Kansas City, Mo., consult. engrs.

Ky., Benham—International Harvester Co., c/o D. E. Perkins, engr., Harlem, Ky., central power plant.

Ky., Mayfield—West Kentucky Rural Electric Co-operative Corp., 305 E. Broadway, headquarters bldg. Max W. Bisson, P. O. Box 172, Owensboro, archt.

Ky., Owensboro—City, power plant, Black & Veatch, 4706 Broadway, Kansas City, Mo., engrs.

Md., Baltimore—Civil Aeronautics Admin., Dpt. Commerce, Federal Bldg., New York, International Airport, Jamaica, N. Y. 16x18 ft. prefrabricated airport surveillance radar bldg., 70 ft. steel tower underground duct sys., facilities at Friendship International Airport, Proposal No. 142-62-4B1.

Minn., Thief River Falls—City, P. G. Pederson, clk., furnish, install diesel generating unit of not less 1,600 hp. with certain auxiliaries in municipal power plant, $85,000.

Miss., Canton—City, 5,000 kva transformer unit sub-station, Barnard & Burk, 1023 Nicholson Dr., Baton Rouge, La., engrs.

New Mexico-Texas—Bureau Reclamation, Dpt. Interior, 211 Federal Court House, El Paso, Tex., addns. to Dona Ana, Las Cruces and Central sub-stations, Rio Grande Proj., Spec. DC-3532. Bids Sept. 26 rejected.

O., Columbus—State Dpt. P. Wks., S. O. Linzell, dir., 705 Ohio Dpts. Bldg., power plant equip., repairs and service units (general const.-equip., piping, electrical) at Columbus State Hospital. Plans deposit $5. H. G. Allen, c/o owner, consult. archt. Sims, Cornelius & Schooley, 2901 N. High St., archts.-engrs.

Okla., Oklahoma City—Oklahoma Gas & Electric Co., 321 N. Harvey St., Zone 2, sub-station and switching facilities in May Fair Sect. **$100,000.** R. F. Danner, c/o owner, engr.

Texas and Louisiana—Mississippi River Fuel Corp., 407 S. St., St. Louis, Mo., base radio stations, Woodlawn, Tex. $90,000; one each at Minden and Perryville, La., $115,000 complete; Athens, La., $90,000.

Tex., Anahuac—Bid Comrs. Chambers-Liberty Counties Navigation Dist. (Trinity Bay Conservation Dist.) Anahuac, Tex. 41-P-1005, pumping units and switchgear units for drainage sys., Approx. $250,000. Freese, Nichols & Turner, 2111 Natl. Std. Bldg., Houston, engrs.

Tex., Dallas—Dallas Power & Light Co., Dallas Power & Light Co. Bldg., 70,000 kw electric generating power plant, near downtown area. $4,000,000.

Tex., Rockdale—Texas Power & Light Co., Interurban Bldg., Dallas, electric generating sub-station for interchange of power with T.P.&L's Company own system at Sandow, 5 mi. southwest. $750,000.

Washington—Bonneville Power Admin., 826 N. E. Oregon St., Portland, Ore., control house and oil house at Valhalla Sub-station Inv. 6093, Chelan Co. Plans deposit $25. L. C. Stewart, 827 N. E. Oregon St., Portland, Ore., engr.

Washington—U. S. Eng., 4735 E. Marginal Way, Seattle, Zone 4, governors for hydraulic turbines at Albeni Falls Dam, Inv. 52-1.

Wash., Seattle — City, County-City Bldg., Seattle, Zone 4, City Light Sub-station in Shoreline District, $2,000,000. E. R. Hoffman, City Light Bldg., city light supt.

Wyoming—Bureau Reclamation, Dpt. Interior, Bldg. 53, Denver Federal Center, Denver, Colo., butterfly valves, operating mechanisms, control systems, accessories for Alcova Power Plant, Kendrick Proj. Spec. DS 3543. Extended date. L. N. McClellan, ch. engr.

Ont., Hamilton—Steel Co. of Canada Ltd., 7 Wilcox St., plans by A. G. McKee & Co., 2300 Chester St., Cleveland, O., U. S. A., 3 electric sub-stations, mould bldg., stock bin bldg., and stripper bldg., Approx. $500,000. Alex Leischman, c/o owner, engr.

Alaska, Fairbanks—City, City Hall, increasing capacity of power plant, $1,500,000; extending heating sys. $75,000.

Puerto Rico, Aquadilla—U. S. Eng., P. O. Box 4970, Jacksonville, Fla., diesel engine generator units, Ramey Air Force Base. Serial No. Eng. 08-123-52-63.

Low Bidders & Contracts Awarded

Wash., Richland—L. H. Hoffman, 715 S.W. Columbia St., Portland, Ore., LB $2,840,000, pile technology bldg. and radiometallurgy bldg. General Electric Co., Richland, prime contractor to Atomic Energy Comn. for operation of Hanford Works, Richland, Wash. Bids Oct. 10.

Tex., Dallas—Dallas Power & Light Co., Dallas Power & Light Bldg., Dallas, Tex. Force Account, Approx. $118,000 12,000 volt electric power line, south of N. W. sub-station; $245,000, several capacitor electric units.

Wash., Tacoma—City, City Hall, Tacoma, Wash., Day Labor, $114,000, grading, retaining wall, rein.-con. foundations, installing equipment, etc. for Nisqually Electrical sub-station at S. 24 and C Sts. J. F. Ward, city light supt.

INDUSTRIAL, COMMERCIAL & PUBLIC BUILDINGS

Proposed Construction

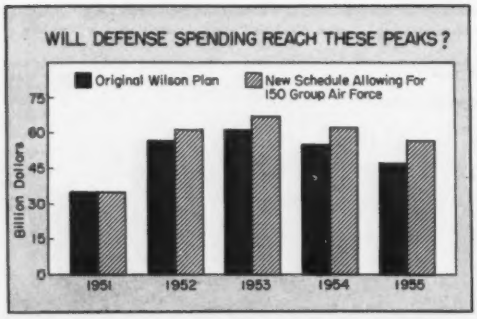
Colo., Pueblo—State of Colorado, Colorado State Hospital, Pueblo, medical center and administration bldg., $4,000,000.

Ky., Fort Knox—U. S. Eng., 830 W. Broadway, Louisville, Zone 3, 84 buildings, 12 underground magazines, supporting facilities, walks, parking areas, etc. Approx. $38,000,000. Plans deposit $100. Louis & Henry, Starks Bldg., Louisville, archts., Warren Van Praag, Decatur, Ill., engr.

Pa., Phila.—Gulf Oil Corp., 30 St. and Penrose Ave., refinery facilities $10,000,000. R. C. Roether c/o owner, ch. engr.

B. C., Kimberly—Consolidated Mining & Smelting Co. of Canada Ltd., Trail, B. C. general plant expansion. $64,000,000.

Electrical Business Outlook



JUST A FEW MORE AIR GROUPS can make a big difference in the nation's economy. They would stimulate all business

New Goals for Mobilization II

The President and his advisers are now discussing a proposal which would step up the mobilization program, yet make it last much longer. This is the proposal to increase the Air Force to 150 groups. And it means more than an increase in airplanes.

The chart above shows how the new Air Force program might increase defense spending and so give an added stimulus to the general business boom. Spending would stay close to peak for three years. And even in 1955 it would be as high as now scheduled for 1952.

If this happens, you can forget about any possibility of a business recession for several years. And you can bet on inflation—caused by the spending—and materials shortages—increased by the new requirements—to last well into 1953.

Boost in Air Force 2 Years Away

Will the Air Force get its new program adopted? Best guess in Washington is that not all of it will be. And what increases do take place will be delayed until 1954 and 1955. We just don't have the facilities to get the program going in 1952 or 1953. And the government isn't anxious to increase spending in those years with a huge deficit already likely.

But the Air Force program is still something to keep in mind. Whatever is adopted will mean that much more new plant construction and forward ordering of materials. And the extra aircraft procurement in 1954-55 is something to think about when you hear that defense spending is going to be cut very deeply. Airplanes these days take a lot of money as well as aluminum.

Above all, the new Air Force proposals emphasize the shifting nature of the whole defense program. You can't draw a neat schedule of defense spending and pick the year when it will begin to drop off. When defense officials say the peak will come late in 1952, that's an honest interpretation of the *present program*. But the timing can change, as the goals change.

Changes in Power Requirements

It's becoming increasingly clear—so far as electric power is concerned—that mobilization will keep adding to new requirements as far ahead as 1953 or 1954, and maybe longer.

One reason is increased emphasis on atomic developments, as opposed to conventional weapons. Congress is almost certain to OK a new program to invest $5 billion to $6 billion in new atomic plants by early 1954. (We've only spent $4 billion on atomic plants from 1943 to the present.) And those plants will really soak up electric power.

Even if defense spending is dropping in 1953-1954, the drop will be in procurement of heavy weapons made by the metal-working industries. And it will chiefly mean less overtime work in those industries (nights and week-ends). So there won't be a corresponding reduction in power requirements during the regular workday. Atomic energy plants would add to the regular load.

There's another reason why mobilization is piling up power load for the future: It's the shift to electro-chemical and electro-metallurgical products—in place of the natural metals and fibers. To meet mobilization goals, we're enlarging our capacity to produce metals like aluminum, magnesium and titanium, synthetic fibers, and other chemicals.

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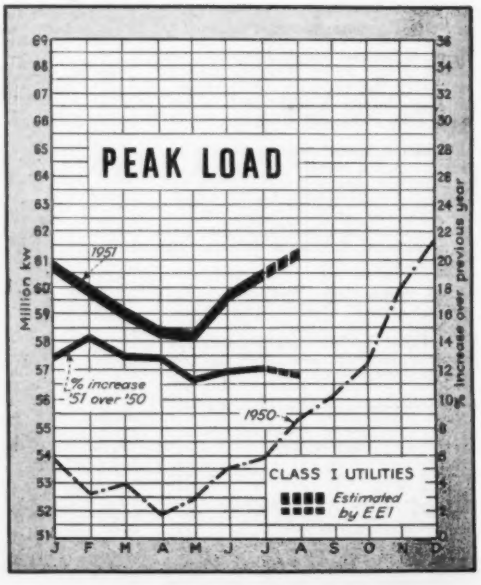

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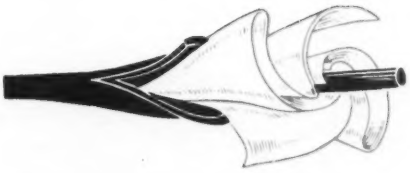

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